

EAST [defaultmine.wsp.1]

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Drafts
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 Active
 L1: (1030) block adj (copolymer or polymer) same mineral near4 oil
 L2: (601) block adj (copolymer or polymer) with mineral near4 oil
 L3: (6) (("5633286" or ("5624294")). PN.
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 (3311) (604/281 OR 606/155 OR 623/1 OR 606/153 OR 606/195 OR 604/10
 (4647) (("623/11" or ("623/8" or ("623/12" or ("623/17" or ("62
 (452) ("623/33,35,36,37"). CCL8.
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DB: USPAT:EPO:JPO:Derwent

5633286
 5624294

5633286 | 5624294). PN.

	Search Terms	Total	USPAT	USOCR	EPO	JPO	Derwent
1	5624294. D763, D570, D575, D380, D283, D285, D287, D289, D291, D193, D194, D195, D196, D197, D198, D197						
2	5633286. D763, D570, D575, D380, D283, D285, D287, D289, D291, D193, D194, D195, D196, D197, D198, D196						
3	(5633286 5624294). PN.	6					

Ready NUM

EAST search 12/8/00

Document ID	Source	Issue Date	Pa
1 US 5792531	USPAT	19980811	9 Re
2 JP 07207575A	DERWE	19950808	6 Ela
3 US 4678664	USPAT	19870707	6 Min

United States Patent [19]

Littleton et al.

[11] Patent Number: 5,792,531

[45] Date of Patent: Aug. 11, 1998

[54] READILY DONNED, POWDER FREE ELASTOMERIC ARTICLE

[75] Inventors: **Kenneth R. Littleton, Julian; Garth Brown, Alpine; Sebastian Finnstetten, Upland, all of Calif.**

[73] Assignee: **Tecyl Technologies, Inc., Vista, Calif.**

[21] Appl. No.: 604,009

[22] Filed: Feb. 28, 1996

[31] Int. Cl. ⁴ B32B 1/06

[52] U.S. Cl. 428/36.8; 428/516; 428/517;

428/519; 428/521; 428/522; 2/161.7; 2/168

[58] Field of Search 2/161.7, 168; 428/36.8, 428/517, 516, 519, 521, 522

[56] References Cited

U.S. PATENT DOCUMENTS

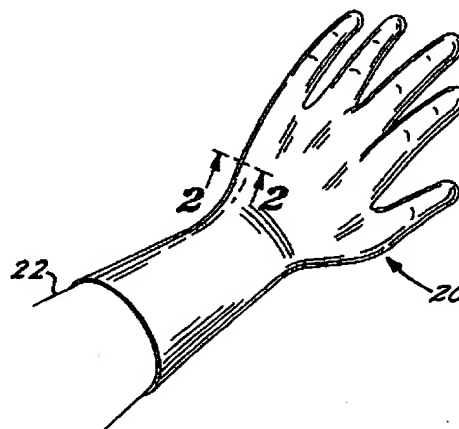
5,451,439 9/1995 Bigg 428/36.8

Primary Examiner—Charles Noid
Attorney, Agent, or Firm—Gregory Garroong

[57] ABSTRACT

An elastomeric article such as a glove includes a substrate body made of an styrene-ethylene-butylacrylate-styrene block copolymer, and a donning layer overlying at least one side of the substrate body. The donning layer is formed of a chlorinated styrene-isoprene, preferably having a polystyrene block content of from about 10 to about 20 percent by weight of the total copolymer weight and an end block polystyrene molecular weight of at least about 5,000. Optionally, a surfactant-containing layer may be present over the donning layer to further improve the donning characteristics. The article is preferably prepared by dip forming the article from an styrene-ethylene-butylacrylate-styrene block copolymer, coating the article with a solution of the styrene-isoprene block copolymer, removing the solvent, and chlorinating the styrene-isoprene block copolymer.

20 Claims, 3 Drawing Sheets



Document ID	Source	Issued	Pa
1	US 5792531	USPAT19980811	3
2	JP 07207575A	DERWE19950808	6
3	US 4678664	USPAT19870707	6

DOCUMENT-IDENTIFIER: US 5792531 A
 TITLE: Readily donned, powder free elastome article

DEPR:

FIG. 4 illustrates the preferred approach for practicing the invention. The substrate body is prepared, preferably by dip forming, numeral 50. The preferred dip forming technique is discussed fully in U.S. Pat. Nos. 5,112,900 and 5,407,715. Briefly, the S-EB-S block copolymers are mixed with a plasticizer. The plasticizer is preferably a mineral oil, which is a refined petroleum paraffinic hydrocarbon oil. The preferred mineral oil has a specific gravity of 0.87 at 77.degree. F., a viscosity of 170 centistokes at 77.degree. F., and a Hirschler molecular weight of 492. The S-EB-S block copolymers are furnished by the manufacturer as a solid. To form a solution from which articles can be dip formed, the S-EB-S block copolymers and the mineral oil plasticizer are dissolved in a mutual solvent, preferably toluene. Toluene solutions of S-EB-S provide minimal viscosities of concentrated solutions compared to many other solvents. A highly concentrated solution improves dip-forming process economics by reducing the amount of solvent that must be processed in a solvent recovery operation. The S-EB-S in toluene solution is a true, stable solution, as distinct from a mixture or an emulsion. The process requires attaining such a solution, as by using a high shear mixer and mixing for a sufficient time to reach a homogeneous solution. The solution is filtered to remove any fine particulate matter.

Document ID	Source	Issued	On	Pat
1	US 5792531	USPAT19980811	9	Re
2	US 0720757A	USPAT19950803	0	Elc
3	US 4678664	USPAT19870707	6	Min

DERWENT-ACC-NO: 1995-309630
 DERWENT-WEEK: 199540
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TITLE: Elastic yarn of block copolymer of polyether-ester!, for sports clothing - comprises in specific amts. poly:di:methyl-silicone, mineral oil and phosphate ester salt of alcohol providing for easy-handlin g yarn.

PATENT-ASSIGNEE: TEIJIN LTD[TEIJ]

PRIORITY-DATA: 1994JP-0000751 (January 10, 1994)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES
MAIN-IPC			
JP 0720757A	August 8, 1995	N/A	006
013/02			D06M

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
JP0720757A	N/A	1994JP-0000751	January 10, 1994

INT-CL_(IPC): D01F006/86; D06M013/02 ; D06M013/292 ; D06M015/643

ABSTRACTED-PUB-NO: JP0720757A

BASIC-ABSTRACT: The elastic yarn comprises (Y) an elastic yarn of block copolymer of polyetherester, and (O) an oily agent composed of indispensable

components of: (A) a polydimethyl-silicone having a viscosity of 3-8 c stokes at 25deg.C; (B) a mineral oil having a viscosity of 8-16 c stokes at 25deg.C; (C) a partial phosphate ester salt of an alcohol having branch with adduct of ethylene oxide, and satisfying conditions (1)-(3), simultaneously: (1) $95 < WA + WB > 90$; (2) $3 < WA/WB > 1$; (3) $20 < WC > 5$; where each WA, WB and WC = each content of (A), (B) and (C), in wt.% respectively and (O) oily agent is made to adhere onto (Y) yarn in an amt. of 1.5-5.0 wt.% based on wt. of (Y) yarn.

USE - The elastic yarn of block copolymer of polyetherester is used for clothes requiring fitting to body, e.g. swimming wear, ski wear, training pants, etc.

ADVANTAGE: The yarn has a superior wearing property, for clothing, etc.

Document ID	Source	Issue	Pa
1	US 5792531	USPAT19980811	9 Re
2	JP 07207575A	DERWE19950808	6 Ela
3	US 4678004	USPAT19870707	C Mir

United States Patent [19]

Schmolka

[11] Patent Number: 4,076,004

[45] Date of Patent: Jul. 7, 1987

[34] MINERAL OIL GELS

[75] Inventor: Irving B. Schmolka, Crossa Ho, Mich.

[73] Assignee: BASF Corporation, Wyandotte, Mich.

[21] Appl. No.: 430,173

[22] Filed: Sep. 30, 1983

[31] Int. Cl.⁴ A61K 7/32; A61K 7/34; A61K 7/36; A61K 7/38

[52] U.S. Cl. 424/65; 424/DIG. 4; 424/DIG. 10; 424/66; 424/67; 424/68; 424/145; 514/363

[58] Field of Search 424/59, 13, 65, 70, 424/170, 168, 65, 68; 252/316; 368/624

[56] References Cited

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2,823,345 1/1958 Spriggs 568/624
4,042,523 8/1977 Ackermann et al. 568/624
4,326,977 4/1982 Schmolka 252/174.21
4,341,799 7/1982 Good 424/363
4,360,451 11/1982 Schmolka 424/78

Primary Examiner—Dale R. Orr
Attorney, Agent, or Firm—Joseph D. Michaels;
Bernhard R. Swick

[57] ABSTRACT

This invention relates to a gel composition comprising water, mineral oil and two polyoxyethylene-polyoxybutylene block copolymers designated copolymer A and copolymer B wherein said block copolymers are copolymeric mixtures of conjugated polyoxybutylene-polyoxyethylene compounds containing in their structure oxybutylene groups, oxyethylene groups and an organic radical derived from a water-soluble organic compound containing a plurality of reactive hydrogen atoms and 2 to 12 carbon atoms wherein copolymer A has a molecular weight of the polyoxybutylene portion of at least about 1800 and the polyoxyethylene portions contribute from about 60 to 80 percent by weight of the compound and copolymer B has a polyoxybutylene portion with a molecular weight of at least about 600 and the polyoxyethylene portion contributes from about 20 to 40 percent by weight of the compound.

10 Claims, No Drawings